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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/371,588	08/10/1999	ARCHIBALD W. SMITH	99-038-TAP	9428

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EXAMINER

SNIEZEK, ANDREW L

ART UNIT

PAPER NUMBER

2651

DATE MAILED: 10/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/371,588

Applicant(s)

SMITH, ARCHIBALD W.

Examiner

Andrew L. Sniezek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-17 is/are allowed.
- 6) ☒ Claim(s) 1-7 and 18-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- ☐ Interview Summary (PTO-413) Paper No(s). _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Drawings

1. The corrected or substitute drawings were received on 7/15/02. These drawings are acceptable.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 24 sets forth "the servo track" which lacks positive antecedent basis.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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5. Claims 24-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Sugawara et al. (6,128,155)

Sugawara et al. teaches a system that adjusts the position of a magnetic medium with respect to a magnetic head (7) with a positioning actuator or carriage mechanism (7-14) by using an optical servo module structure as depicted in figures 3-5. This module comprises an optical beam source (10b) a detector (10c) and an optical beam interference composition or hologram arrangement (10a) that produces a pattern (K1-K3) on a target. The reflected light beams (L1-L3) are then used by detecting intensities (column 121, lines 1-4) to control the position of a servo track (50a) with respect to the head. This teaching satisfies the limitations of claims 24-26.

Claim Rejections - 35 USC § 103

6. Claims 1-3, 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugawara et al. in view of Roth et al. (4,958,245).

Sugawara et al. teaches a system that adjusts the position of a magnetic head (7) with a positioning actuator or carriage mechanism (7-14) by using an optical servo module structure as depicted in figures 3-5. This module comprises an optical beam source (10b) a detector (10c) and an optical beam interference composition or hologram arrangement (10a) that produces a pattern (K1-K3) on a target. These features satisfy the corresponding features of claims 1 and 21. Claim 1, 21 and 22 state that the system is used in conjunction with a magnetic tape, where the arrangement taught by Sugawara et al. is used with a magnetic disk. Roth et al. teaches that it is well known to use such positioning arrangements in a variety of medium devices including a magnetic

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tape medium (column 12, lines 20-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the positioning arrangement taught by Sugawara et al. such that it could be not only used in a magnetic disk arrangement but also a magnetic tape arrangement (Roth et al.) since the type of medium used does not change the operation of the optical tracking arrangement as set forth. The claimed wrap angle (claim 22) is inherent in the teaching of Roth when used in a magnetic tape environment. Claim 2 sets forth that there is two detectors. Although Sugawara et al. does not specifically indicate the number of detecting elements in detector (10c), Roth et al. specifically teaches a detector (50) that is comprised of two elements (52) which inherently provides a more accurate reading of the reflected light. Such a detector as taught by Roth et al. would have been obviously incorporated into the arrangement of Sugawara et al. in order to achieve a more accurate reading of the detected light. Claims 3 and 23 set forth that the optical servo module is fixed between the read and write heads. Sugawara et al. appears to have the module attached to the head. The placement difference is deemed to be a design choice that one of ordinary skill could have made through routine engineering practice. There does not appear to be any added benefit to this minor placement difference and therefore would have been obvious to vary the location of the module at various locations on the head without breaking the bounds of invention.

7. Claims 4, 5, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugawara et al. and Roth et al. as applied to claims 1-3, 21 and 22 above, and further in view of Smith ('349).

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The teachings of Sugawara et al. and Roth et al. are discussed above and incorporated herein. Claim 4 further sets forth plural modules. Although not taught by Sugawara et al. or Roth et al., is taught by Smith (figures 2 and 3) to improve the accuracy of placement of the head. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate plural modules as taught by Smith in the apparatus of Sugawara et al. and Roth et al. as combined to improve the accuracy of the head. As seen from figure 1 of Sugawara et al., the placement of the modules as set forth in claim 5 is satisfied. Also, the claimed laser as set forth in claim 18 is satisfied by column 6, line 39 of Sugawara et al. Sugawara et al., element (10a) satisfies the claimed hologram limitation of claim 19.

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugawara et al., Roth et al. and Smith as applied to claims 4, 5, 18 and 19 above, and further in view of Farnsworth et al. (5,121,371)

The teachings of Sugawara et al. Roth et al. and Smith are discussed above and incorporated herein. Claim 20 further sets forth that the optical beam interference composition is two or more parallel slits. Sugawara et al. uses a hologram type (HOE) of interference composition. Farnsworth et al. teaches in column 4 that a (HOE) can be replaced with a pair of slits to obtain the same result. It would have been obvious to one of ordinary skill in the art to replace the (HOE) type of interference composition as taught by Sugawara et al. with a pair of slits as taught by Farnsworth et al. to obtain the same result and to use this modified teaching of Sugawara et al. with Roth et al. and Smith in a similar manner as previously discussed in paragraph 7.

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9. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugawara et al., Roth et al. and Smith as applied to claims 4, 5 and 18 above, and further in view of Leonhardt et al. ('740)

The teaching of Sugawara et al., Roth et al. and Smith are discussed above and incorporated herein. Claim 6 is directed to an assembly that houses the servo modules such that the face the back of the tape and claim 7 includes a grating assembly. Although not specifically taught by Sugawara et al. Roth et al. or Smith, having servo modules facing the back of a tape is taught by Leonhardt et al. (figure 1) to decouple the recording surface from the servo system (abstract). As seen in (figure 1) gratings are present. It would have been obvious to one of ordinary skill in the art to incorporate the teaching of Leonhardt et al. into that of Sugawara et al. Roth et al. and Smith as applied to decouple the recording surface from the servo surface.

Allowable Subject Matter

10. Claims 8-17 are allowed.

Response to Arguments

11. Applicant's arguments with respect to claims 1-7 and 18-26 have been considered but are moot in view of the new ground(s) of rejection.

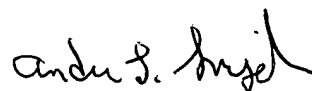
Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew L. Snizek whose telephone number is 703-308-1602. The examiner can normally be reached on Mon.-Fri..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 703-305-4700. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.



Andrew L. Sniezek
Primary Examiner
Art Unit 2651

A.L.S.
October 7, 2002